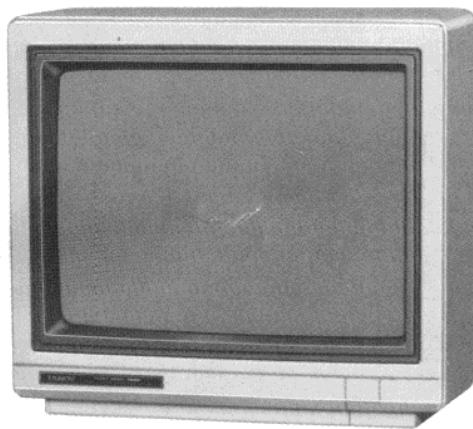


TANDY®

Cat.No. 26-3215



**Color Monitor CM-8
Owner's Manual**



The FCC Wants You to Know

This equipment generates and uses radio frequency energy. If not installed and used properly, that is in strict accordance with the manufacturer's instructions, it may cause interference to radio and television reception.

It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

Warning

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

2/86

Color Monitor CM-8 Owner's Manual:

**Copyright 1986 Tandy Corporation
Fort Worth, Texas 76102, U.S.A.
All Rights Reserved**

Reproduction or use, without express written permission from Tandy Corporation, of any portion of this manual, is prohibited. While reasonable efforts have been taken in the preparation of this manual to assure its accuracy, Tandy Corporation assumes no liability resulting from any errors or omissions in this manual or from the use of the information obtained herein.

TERMS AND CONDITIONS OF SALE AND LICENSE OF TANDY COMPUTER EQUIPMENT AND SOFTWARE
PURCHASED FROM RADIO SHACK COMPANY-OWNED COMPUTER CENTERS, RETAIL STORES AND
RADIO SHACK FRANCHISEES OR DEALERS AT THEIR AUTHORIZED LOCATIONS

LIMITED WARRANTY

I. CUSTOMER OBLIGATIONS

- A. CUSTOMER assumes full responsibility that this computer hardware purchased (the "Equipment"), and any copies of software included with the Equipment or licensed separately (the "Software") meets the specifications, capacity, capabilities, versatility, and other requirements of CUSTOMER.
- B. CUSTOMER assumes full responsibility for the condition and effectiveness of the operating environment in which the Equipment and Software are to function, and for its installation.

II. LIMITED WARRANTIES AND CONDITIONS OF SALE

- A. For a period of ninety (90) calendar days from the date of the Radio Shack sales document received upon purchase of the Equipment, RADIO SHACK warrants to the original CUSTOMER that the Equipment and the medium upon which the Software is stored is free from manufacturing defects. This warranty is only applicable to purchases of Tandy Equipment by the original customer from Radio Shack company-owned computer centers, retail stores, and Radio Shack franchisees and dealers at their authorized locations. The warranty is void if the Equipment's case or cabinet has been opened, or if the Equipment or Software has been subjected to improper or abnormal use. If a manufacturing defect is discovered during the stated warranty period, the defective Equipment must be returned to a Radio Shack Computer Center, a Radio Shack retail store, a participating Radio Shack franchisee or a participating Radio Shack dealer for repair, along with a copy of the sales document or lease agreement. The original CUSTOMER'S sole and exclusive remedy in the event of a defect is limited to the correction of the defect by repair, replacement, or refund of the purchase price, at RADIO SHACK'S election and sole expense. RADIO SHACK has no obligation to replace or repair expendable items.
- B. RADIO SHACK makes no warranty as to the design, capability, capacity, or suitability for use of the Software, except as provided in this paragraph. Software is licensed on an "AS IS" basis, without warranty. The original CUSTOMER'S exclusive remedy, in the event of a Software manufacturing defect, is its repair or replacement within thirty (30) calendar days of the date of the Radio Shack sales document received upon license of the Software. The defective Software shall be returned to a Radio Shack Computer Center, a Radio Shack retail store, a participating Radio Shack franchisee or Radio Shack dealer along with the sales document.
- C. Except as provided herein no employee, agent, franchisee, dealer or other person is authorized to give any warranties of any nature on behalf of RADIO SHACK.
- D. EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO EXPRESS WARRANTIES, AND ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED IN ITS DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES SET FORTH HEREIN.
- E. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation(s) may not apply to CUSTOMER.

III. LIMITATION OF LIABILITY

- A. EXCEPT AS PROVIDED HEREIN, RADIO SHACK SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY "EQUIPMENT" OR "SOFTWARE" SOLD, LEASED, LICENSED OR FURNISHED BY RADIO SHACK, INCLUDING, BUT NOT LIMITED TO, ANY INTERRUPTION OF SERVICE, LOSS OF BUSINESS OR ANTICIPATORY PROFITS OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE "EQUIPMENT" OR "SOFTWARE." IN NO EVENT SHALL RADIO SHACK BE LIABLE FOR LOSS OF PROFITS, OR ANY INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF THIS WARRANTY OR IN ANY MANNER ARISING OUT OF OR CONNECTED WITH THE SALE, LEASE, LICENSE, USE OR ANTICIPATED USE OF THE "EQUIPMENT" OR "SOFTWARE." NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, RADIO SHACK'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY CUSTOMER OR OTHERS SHALL NOT EXCEED THE AMOUNT PAID BY CUSTOMER FOR THE PARTICULAR "EQUIPMENT" OR "SOFTWARE" INVOLVED.
- B. RADIO SHACK shall not be liable for any damages caused by delay in delivering or furnishing Equipment and/or Software.
- C. No action arising out of any claimed breach of this Warranty or transactions under this Warranty may be brought more than two (2) years after the cause of action has accrued or more than four (4) years after the date of the Radio Shack sales document for the Equipment or Software, whichever first occurs.
- D. Some states do not allow the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply to CUSTOMER.

IV. SOFTWARE LICENSE

RADIO SHACK grants to CUSTOMER a non-exclusive, paid-up license to use the TANDY Software on one computer, subject to the following provisions:

- A. Except as otherwise provided in this Software License, applicable copyright laws shall apply to the Software.
- B. Title to the medium on which the Software is recorded (cassette and/or diskette) or stored (ROM) is transferred to CUSTOMER, but not title to the Software.
- C. CUSTOMER may use Software on a multiuser or network system only if either, the Software is expressly labeled to be for use on a multiuser or network system, or one copy of this software is purchased for each node or terminal on which Software is to be used simultaneously.
- D. CUSTOMER shall not use, make, manufacture, or reproduce copies of Software except for use on one computer and as is specifically provided in this Software License. Customer is expressly prohibited from disassembling the Software.
- E. CUSTOMER is permitted to make additional copies of the Software only for backup or archival purposes or if additional copies are required in the operation of one computer with the Software, but only to the extent the Software allows a backup copy to be made. However, for TRSDOS Software, CUSTOMER is permitted to make a limited number of additional copies for CUSTOMER'S own use.
- F. CUSTOMER may resell or distribute unmodified copies of the Software provided CUSTOMER has purchased one copy of the Software for each one sold or distributed. The provisions of this Software License shall also be applicable to third parties receiving copies of the Software from CUSTOMER.
- G. All copyright notices shall be retained on all copies of the Software.

V. APPLICABILITY OF WARRANTY

- A. The terms and conditions of this Warranty are applicable as between RADIO SHACK and CUSTOMER to either a sale of the Equipment and/or Software License to CUSTOMER or to a transaction whereby Radio Shack sells or conveys such Equipment to a third party for lease to CUSTOMER.
- B. The limitations of liability and Warranty provisions herein shall inure to the benefit of RADIO SHACK, the author, owner and/or licensor of the Software and any manufacturer of the Equipment sold by Radio Shack.

VI. STATE LAW RIGHTS

The warranties granted herein give the original CUSTOMER specific legal rights, and the original CUSTOMER may have other rights which vary from state to state.

Introduction

Tandy is proud to present the CM-8, a color display monitor specially designed for Color Computer 3.

Features of the CM-8 include:

- Thirteen-inch color display providing eye-pleasing graphics
- High contrast CRT with 0.52-mm screen pitch
- Adjustable picture controls that tailor brightness and contrast to suit environmental lighting
- Sharp, "flicker-free" image provided by non-interlaced circuitry
- Built-in speaker and audio circuit

Description of the CM-8

Before connecting your CM-8 to a computer or power source, first read the instructions provided in the section **Using the CM-8**. The information below will only acquaint you with the parts of your monitor.

Features and Controls

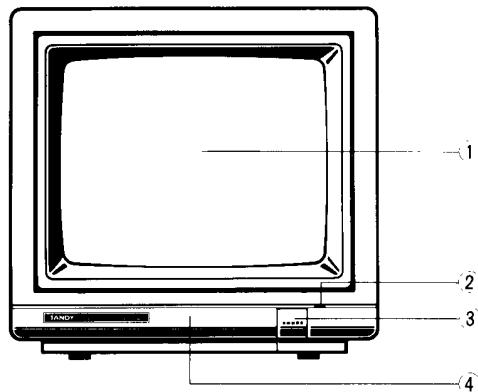


Figure 1. Front View

① **Video Screen.** Front viewing surface.

② **POWER ON Indicator.** This indicator illuminates when the monitor's power is on.

- ③ **POWER ON/OFF Switch.** Press to turn on power to the CM-8. Press again to turn off power.
- ④ **Control Panel.** Behind this panel are the Vertical Hold, Horizontal Centering, Sound Volume, Contrast, and Brightness rotary controls.

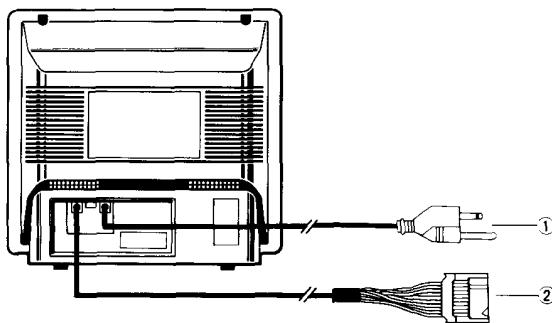


Figure 2. Rear View

- ① **Power Cord.** Plug the power cord into a standard, grounded AC outlet or approved power strip.
- ② **RGB Connector.** Connect the RGB connector to the Color Computer 3.

Setting Up the CM-8

To set up the CM-8, you only have to connect the monitor to your Color Computer 3 via cable.

Connecting to a Computer

1. Be sure that power to all components is OFF.
2. Connect the RGB connector to the computer's RGB interface on the bottom of the computer.
3. Route the connector cable through the groove on the bottom of the computer.

After you have connected the CM-8 to your Color Computer, connect the CM-8's AC cord to the power source.

Using the CM-8

Power up the CM-8 (and other peripherals if necessary), then the Color Computer 3. After powering up, you may need to adjust the display of the CM-8.

Adjusting the CM-8

The 5 adjustment knobs are located below the video screen on the left side behind the control panel. The panel door opens from the left side and swings down to reveal the controls.

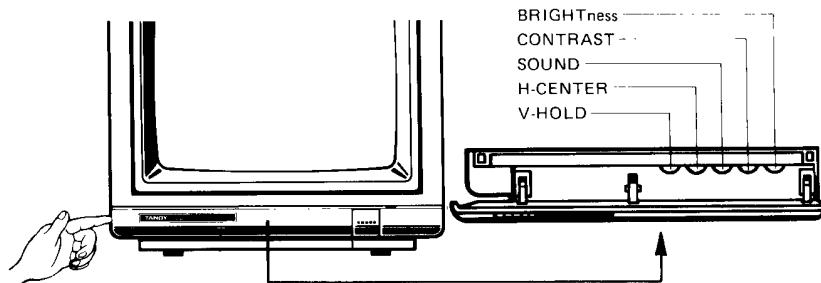


Figure 3. Control Panel

V-HOLD

This control stabilizes the display on the screen. Rotate the knob fully counter-clockwise and then slowly clockwise until the display is stable.

SOUND

This control adjusts the sound volume. The volume increases as this knob is turned clockwise and decreases as it is turned counterclockwise.

H-CENTER

This control sets horizontal position. Rotate the knob to center the display.

CONTRAST and BRIGHTness

Adjust the screen brightness to compensate for room lighting.

- If the room is dark, rotate either or both of these controls counterclockwise until the picture is easily visible.
- If the room is bright, rotate either or both of these controls clockwise until the picture is easily visible.
- The CONTRAST control also adjusts separation of low and high intensity characters—low or high as required.

Care and Maintenance

Provided the CM-8 is connected to the proper power source and is handled gently, it should give you a long period of trouble-free service. Unplug the set and have it checked by your qualified Radio Shack service technician, if you suspect a malfunction with the unit under conditions such as:

- Set is dropped or the cabinet is damaged
- Power cord is damaged or frayed
- Set is exposed to rain or water

If you are unable to restore normal operation by following the detailed procedure in your operation instructions, do not attempt any further adjustments as improper adjustment of other controls may result in damage and could require extensive work by a qualified technician to restore the set to normal operation. Unplug the set and call your Radio Shack Computer Center or Radio Shack store.

If the set fails, or exhibits a distinct change in performance, the unit needs servicing. Unplug the set and have it checked by a professional Radio Shack service technician.

It is normal for some sets to make occasional snapping and popping sounds, particularly when being turned on or off. If the snapping or popping is continuous or frequent, unplug the set and consult your Radio Shack Computer Center or Radio Shack store.

Installation and Location Hints

The set has slots, openings in the cabinet and back for ventilation purposes, to provide reliable operation of the monitor and protect it from overheating.

- Install the set at least 4" (0.1 meters) away from the wall.
- Never cover the slots or openings with cloth or other fabric.
- Never block the bottom ventilation slots of the monitor by placing it on a bed, sofa, rug, etc.
- Never place the monitor in a built-in enclosure unless proper ventilation is provided.
- Never place the monitor near or over a radiator or heat register.
- Never expose the monitor to rain or excessive moisture and dust as this can be a potential cause of fire or shock hazard.
- Never place the monitor on an unstable monitor cart or stand. The monitor may fall, causing damage to the monitor or personal injury.

Care and Maintenance

Operation

- Operate the set only from the power source indicated on the back of the cabinet.
- To use a power source that is not marked on the monitor will shorten the life of the monitor and cause damage in addition to improper operation.
- To ensure safe operation, the 3-pin plug (supplied) must be inserted only into a standard 3-pin power point which is effectively grounded through the normal household wiring. Extension cords used with the equipment must be 3-wire and correctly wired to provide connection to ground. Improperly wired extension cords are a major cause of fatalities. The fact that the equipment operates satisfactorily does not imply that the power point is grounded and that the installation is completely safe. For your safety, if in any doubt about the effective grounding of the power point, consult a qualified electrician.
- Do not overload wall outlets and extension cords as this can result in a fire or electrical shock.
- Adjust only those controls that are described in the owner's manual. Improper adjustment of other controls may result in possible damage and will require the services of a technician to restore proper operation.
- Do not allow anything to rest on the power cord. Do not locate this monitor where the cord will be abused by persons walking on it.
- When not using the set for extended periods of time, such as a weekend or vacation, unplug the set from the wall outlet.
- When the same characters or graphics are shown for a long time with the BRIGHTNESS and CONTRAST controls set to maximum positions, part of the screen may be damaged. Use these controls with care.
- Do not remove the back cover of the set as this can expose you to very high voltage and other hazards.
- Caution children about dropping or pushing objects into the cabinet openings. Some internal parts carry hazardous voltages and contact can result in electrical shock or fire.
- Never operate the set near water—for example, near a bathtub, washbasin, kitchen sink, laundry tub, swimming pool, or in a wet basement, etc.
- Never spill a liquid of any kind on the monitor. If liquid is accidentally spilled, unplug the set and have it checked by a Radio Shack service technician before using.

Cleaning the CM-8

Always unplug the monitor before cleaning it. Wipe the screen and cabinet, front and sides, with a soft cloth. If the screen requires more than dusting, apply a household window cleaner to a soft cloth to clean the monitor screen.

Caution—Do not use benzene, thinner, or any volatile substances to clean the unit as the finish may be permanently marred. Never leave the unit in contact with rubber or vinyl for an extended period.

Occasionally, the internal parts of the monitor may need to be cleaned to prevent a fire and other damage caused by dust particles. It is recommended that you take the unit to a Radio Shack Computer Center for a yearly cleaning.

Technical Information

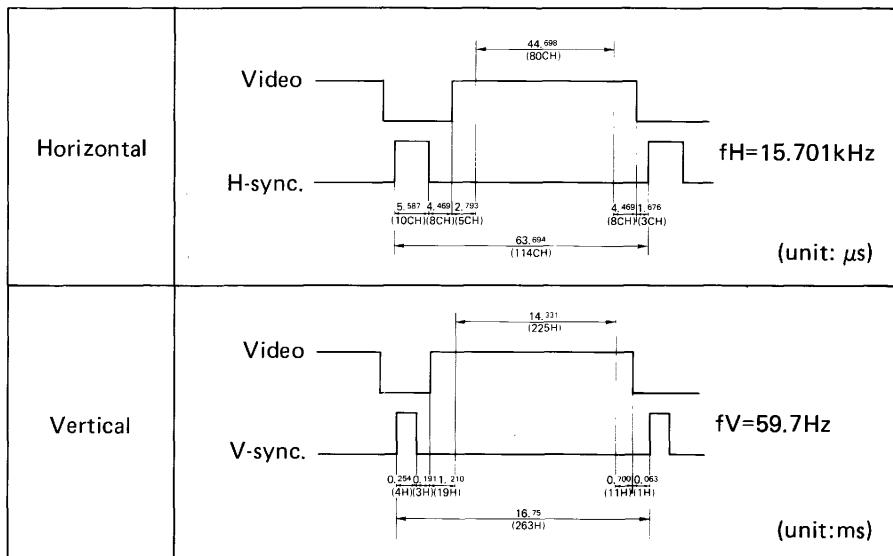
The CM-8 is designed for connection to a non-interlaced 225-line signal with 15.701 kHz scanning frequency (as detailed on pages 7 and 8). When the CM-8 is connected to a computer with other than the specified input signal, the following may occur:

Symptom	Cause
Shrunken screen	Data display period is too short.
Expanded screen	Data display period is too long.
Image to left or right	Data display period is out of alignment.
Moving screen	Synchronization period is different.
Dark screen	Front and back porch of video signal is missing.

Input Signal

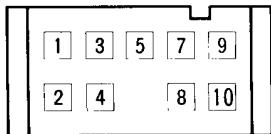
Video Signal	Horizontal Sync.	Vertical Sync.
RGB Separate Analog 0.8 ~ e 2.0 V	TTL-Positive	TTL-Positive

Timing Chart



Input Connector

The connector is a 10-pin, flat cable type. The relation between pins and signals is as follows:



PIN#	SIGNAL
1	NO CONNECT
2	GROUND
3	RED
4	GREEN
5	BLUE
-	-
7	AUDIO
8	HORIZONTAL SYNC
9	VERTICAL SYNC
10	NO CONNECT

Specifications

Power Supply	U.S.A.: 120VAC, 60Hz Australia: 240VAC, 50Hz
AC Input Current	U.S.A.: 0.75A Australia: 0.35A
CRT	13" (33 cm) diagonal, 90° deflection, high contrast, picture tube, 0.52-mm screen pitch
Input Signal	Red, green, and blue (RGB) video, analog, vertical and horizontal synchronization, audio signal
Input Level	Video 0.8 ~ 2.0V-positive, vertical and horizontal synchronization, TTL-positive, audio 1.0V p-p
Input Connector	10-pin, flat cable type connector
Speaker	3-1/8" (8.0 cm) round (8 ohms)
Scanning Frequency	
Horizontal	15.701kHz±500Hz
Vertical	59.7Hz±1.0Hz
Display Size	9-27/32" x 7-15/32" (250 mm x 190 mm)
Cabinet Dimensions	13-11/16"(W) x 12-17/32"(H) x 15-1/8"(D) (348 mm(W) x 318 mm(H) x 384.5 mm(D))
Weight	Approximately 23 lbs. 2 ozs. (10.5 kg)
Power Cord	3-wire, approximately 6ft. (1.83 m)

SERVICE POLICY

Radio Shack's nationwide network of service facilities provides quick, convenient, and reliable repair services for all TANDY/Radio Shack computer products, in most instances. Warranty service will be performed in accordance with Radio Shack's Limited Warranty. Non-warranty service will be provided at reasonable parts and labor costs.

Because of the sensitivity of computer products, and the problems which can result from improper servicing, the following limitations also apply to the services offered by Radio Shack:

1. If any of the warranty seals on any Radio Shack and Tandy computer products it sells are broken, Radio Shack reserves the right to refuse to service the product or to void any remaining warranty on the product.
2. If any computer product purchased from Radio Shack has been modified so that it is not within manufacturer's specifications, including, but not limited to, the installation of any non-Radio Shack parts, components, or replacement boards, then Radio Shack reserves the right to refuse to service the product, void any remaining warranty, remove and replace any non-Radio Shack part found in the product, and perform whatever modifications are necessary to return the product to original factory manufacturer's specifications.
3. The cost for the labor and parts required to return the computer product to original manufacturer's specifications will be charged to the customer in addition to the normal repair charge.

CUSTOM MANUFACTURED FOR RADIO SHACK
A Division of Tandy Corporation

U.S.A.: FORT WORTH, TEXAS 76102
CANADA: BARRIE, ONTARIO L4M 4W5

TANDY CORPORATION

AUSTRALIA

91 Kurrajong Avenue
Mount Druitt, N.S.W. 2770

BELGIUM

Rue des Pieds d'Alouette, 39
5140 Naninne (Namur)

FRANCE

Centre Commercial des 3 Fontaines
B.P. 147
95022 Cergy Pontoise Cedex

U. K.

Bilston Road Wednesbury
West Midlands WS10 7JN